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NOTICE OF ALLOWANCE AND FEE(S) DUE

49056   7590   01/26/2010

LIEBERMAN & BRANDSDORFER, LLC
802 STILL CREEK LANE
GAITHERSBURG, MD 20878

EXAMINER
ELLIOTT IV, BENJAMIN H

ART UNIT	PAPER NUMBER
2474	

DATE MAILED: 01/26/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,641	03/23/2007	Lionel Denecheau	FR9-2002-0038-US1	8710

TITLE OF INVENTION: SYSTEM AND METHOD FOR COMMUNICATING ON A VIRTUAL RING IN AN INTERNET PROTOCOL NETWORK

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	$1510	$300	$0	$1810	04/26/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail**   Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax   (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

49056	7590	01/26/2010

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GAITHERSBURG, MD 20878

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission
I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

_____ (Depositor's name)

_____ (Signature)

_____ (Date)

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nonprovisional	NO	$1510	$300	$0	$1810	04/26/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
ELLIOTT IV, BENJAMIN H	2474	370-258000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,

(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1 _____

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE   (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) :   ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

☐ Issue Fee

☐ Publication Fee (No small entity discount permitted)

☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

☐ A check is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.   ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____   Date _____

Typed or printed name _____   Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.   OMB 0651-0033   U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/596,641	03/23/2007	Lionel Denecheau	FR9-2002-0038-US1	8710

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EXAMINER
ELLIOTT IV, BENJAMIN H

ART UNIT	PAPER NUMBER
2474	

DATE MAILED: 01/26/2010

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 273 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 273 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 08/07) Approved for use through 08/31/2010.

	Application No.	**Applicant(s)**
Notice of Allowability	10/596,641	DENECHEAU ET AL.
	Examiner	**Art Unit**	
	BENJAMIN ELLIOTT	2474	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *11/03/2009*.

2. ☒ The allowed claim(s) is/are *23-29 and 32-40*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .

7. ☒ Examiner's Amendment/Comment

8. ☐ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2474

EXAMINER'S AMENDMENT

1.   An examiner's amendment to the record appears below. Should the

changes and/or additions be unacceptable to applicant, an amendment may be

filed as provided by 37 CFR 1.312. To ensure consideration of such an

amendment, it MUST be submitted no later than the payment of the issue fee.

        Authorization for this examiner's amendment was given in a telephone

interview with Rochelle Lieberman on January 12, 2010.

In the Specification:

Page 25 of the Specification (submitted 06/19/2006, with the heading "Substitute

Specification") reads on line 8:

--can be any apparatus that can contain or store the program--

In the Claims:

23. -- A method to use in a node within a network comprising a transport layer

protocol providing end to end data transfer, for multicasting datagrams on a

virtual ring, each node on the virtual ring being logically connected according to

the network transport layer protocol to an upstream neighbor node and a

downstream neighbor node through virtual connections, comprising:

sending a datagram to the downstream neighbor node on the virtual ring, said

datagram including a virtual ring identifier, a source address of a sending node, a

destination address of a next node on the ring, a source port, a destination port,

and an identifier for a node originator of the datagram;

each node including said ring identifier ~~an IP address of a virtual ring manager~~;

identifying the received datagram upon receipt of the datagram;

determining if the received datagram is a token generated by ~~the~~ a virtual ring

manager, <u>wherein the token comprises a sequence number incremented each</u>

<u>time the token is received by the virtual ring manager node</u>, and forwarding the

token to the downstream neighbor node on the identified virtual ring if the token

is valid, wherein said manager is responsible for validating and modifying a ring

topology;

determining if the received datagram is a virtual ring datagram containing data

other than a token;

forwarding said virtual ring datagram to the downstream neighbor node on the

identified virtual ring if the received virtual ring datagram has not been locally

originated; and

removing the virtual ring datagram from the virtual ring if the received virtual ring

datagram has been locally originated.—

Claims 30 and 31 canceled.

38. --A computer network comprising:

at least two nodes having a transport layer protocol to provide end to end data

transfer to multicast datagrams in a virtual ring, <u>each datagram including a virtual</u>

<u>ring identifier, a source address of a sending node, a destination address of a</u>

next node on the ring, a source port, a destination port, and an identifier for a

node originator of the datagram;

each node on said virtual ring being logically connected to an upstream neighbor

node and a downstream neighbor node through virtual connection; and

instructions for multicasting datagrams on said virtual ring comprising:

sending a datagram to the downstream neighbor node on the virtual ring;

identifying the received datagram upon receipt of the datagram;

determining if the received datagram is a token generated by a virtual ring

manager, wherein the token comprises a sequence number incremented each

time the token is received by the virtual ring manager node, responsible for

validating and modifying a virtual ring topology and forwarding the token to the

downstream neighbor node on the identified virtual ring if the token is valid;

determining if the received datagram is a virtual ring datagram containing data

other than a token;

forwarding said virtual ring datagram to the downstream neighbor node on the

identified virtual ring if the received virtual ring datagram has not been locally

originated; and

removing the virtual ring datagram from the virtual ring if the received virtual ring

datagram has been locally originated.—

39. -- An article comprising:

a computer network comprising at least two nodes having a transport layer

protocol to provide end to end data transfer to multicast datagrams in a virtual

ring; each node on said virtual ring being logically connected to an upstream

neighbor node and a downstream neighbor node through virtual connection;

a non-transitory computer readable medium in said network;

instructions in said medium for multicasting datagrams on said virtual ring

comprising:

instructions for sending a ~~virtual ring~~ datagram to the downstream neighbor node

on the virtual ring;

instructions for identifying the received datagram upon receipt of the datagram;

instructions for determining if the received datagram is a token generated by a

virtual ring manager responsible for validating and modifying a virtual ring

topology, and forwarding the token to the downstream neighbor node on the

identified virtual ring if the token is valid, said token being a datagram including a

token identifier and a token sequence number, a source address of a sending

node, a source port, a destination port, and a destination address of a next node

on the ring, and means for identifying the virtual ring, wherein the sequence

number is incremented each time the token is received by the virtual ring

manager node;

instructions for determining if the received datagram is a virtual ring datagram

containing data other than a token;

instructions for forwarding said virtual ring datagram to the downstream neighbor

node on the identified virtual ring if the received virtual ring diagram has not been

local originated; and

instructions for removing the virtual ring datagram from the virtual ring if the

received virtual ring datagram has been locally originated.—

40. -- A method to use in a node within a network comprising a transport layer

protocol providing end to end data transfer, for multicasting datagrams on a

virtual ring, each node on the virtual ring being logically connected according to

the network transport layer protocol to an upstream neighbor node and a

downstream neighbor node through virtual connections, comprising;

sending a ~~virtual ring~~ datagram to the downstream neighbor node on the virtual

ring; said ~~virtual ring~~ datagram comprising:

a virtual ring identifier;

means for identifying the node originator of the ~~virtual ring~~ datagram; ~~and~~

<u>a destination address of a next node on the ring; and</u>

data;

identifying the received datagram upon receipt of the datagram;

determining if the received datagram is a token generated by a virtual ring

manager responsible for validating and modifying a ring topology, comprising:

identifying the virtual ring; checking whether the token is valid; and

forwarding the token to the downstream neighbor node on the identified virtual

ring if the token is valid, <u>said token being a datagram including a token identifier</u>

<u>and a token sequence number;</u>

determining if the received datagram is a virtual ring datagram containing data

other than a token, comprising:

identifying the virtual ring;

checking the node originator of the received virtual ring datagram;

determining if the received virtual ring datagram has not been locally originated,

comprising:

processing data comprised in said virtual ring datagram and forwarding said

virtual ring datagram to the downstream neighbor node on the identified virtual

ring; and determining if the received virtual ring datagram has been locally

originated, comprising:

removing the virtual ring datagram from the virtual ring, ~~wherein said datagram~~

~~includes a ring identifier, a source address of a sending node, a destination~~

~~address of a next node on the ring, a source port, a destination port, and an~~

~~identifier for a node originator of the datagram.~~

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to BENJAMIN ELLIOTT whose telephone

number is (571)270-7163. The examiner can normally be reached on Monday

thru Friday, 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Aung Moe can be reached on (571)272-7314. The fax

phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2474

BENJAMIN ELLIOTT
Examiner
Art Unit 2474